

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/613,374- Confirmation No. 7181  
Applicants : S. Datta et al.  
Filed : July 3, 2003  
TC/A.U. : 1711  
Examiner : Nathan M. Nutter

Docket No. : 1998B037A/2  
Customer No. : 1473

Mail Stop Non-Fee Amendment  
Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

New York, New York 10020  
April 22, 2004

"EXPRESS MAIL" mailing label number EV 132198554 US

Date of Deposit: April 22, 2004

I hereby certify that this certification and the following papers and fees:

1. Transmittal Letter (in duplicate);
2. Amendment and Reply to Office Action with Appendix A;
3. Request for Interference with Stevens et al. Application  
(No. 10/289,122) Pursuant to 37 C.F.R. § 1.604;
4. Request for Interference with Tau et al. Application (No. 10/289,168)  
Pursuant to 37 C.F.R. § 1.604;
5. Declaration of Professor Rufina G. Alamo with Exhibits 1-10;
6. Declaration of Srivatsan Srinivas, Ph.D. with Exhibit 1; and
5. Postcard Receipt

are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and are addressed to Mail Stop Non-Fee Amendment, Hon. Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Name:

  
Lillian Garcia



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**REQUEST FOR INTERFERENCE WITH  
STEVENS ET AL. APPLICATION (NO. 10/289,122)  
PURSUANT TO 37 C.F.R. § 1.604**

Sir:

The purpose of this Paper is to provoke an interference between newly added claims 32-38 of Requester Datta et al.'s U.S. patent application no. 10/613,374 and claims 1-25 of Stevens et al.'s U.S. patent application no. 10/289,122.

This Paper is accompanied by an Amendment and Reply to Office Action, which cancels claims now pending in this application and includes new claims 32-38. The Amendment and Reply to Office Action is supported by the declarations of Srivatsan Srinivas, Ph.D., and Professor Rufina G. Alamo. The Amendment shows that Requester Datta et al.'s claims 32-38 are allowable and supported by the specification.

Stevens et al.'s U.S. patent application no. 10/289,122 ("the Stevens '122 application") discloses and claims polymer blends comprising two phases – a crystalline polypropylene "matrix" and at least one partially crystalline propylene copolymer "impact modifier" – having certain characteristics and properties. Similarly, Requester Datta et al.'s

("Datta") application discloses and claims polymer blends having two phases – a continuous phase and a dispersed phase – that have characteristics and properties that overlap those of the blends of the Stevens '122 application. The blends comprise a crystalline polypropylene and a crystallizable propylene alpha-olefin copolymer. A broad range of compositions is disclosed for these components of the blends. Datta respectfully requests that an interference be declared based on the count proposed by Datta below and involving Datta's pending claims 32-38 and all of Stevens' pending claims 1-25.

**I. PRESENTATION OF PROPOSED COUNT (37 C.F.R. § 1.604(a)(1))**

Datta proposes the following Count 1:

*Datta's Claim 32*

A polymer blend comprising (i) a crystalline polypropylene continuous phase having a weight average molecular weight, and (ii) an at least partially crystalline copolymer dispersed phase having a weight average molecular weight lower than the weight average molecular weight of the crystalline polypropylene continuous phase, the dispersed phase comprising propylene and ethylene and/or one or more unsaturated comonomers, the dispersed phase prepared using a metallocene catalyst.

OR

*Stevens Allowed Claim 1*

An impact-resistant polymer blend comprising (i) a crystalline polypropylene matrix having a weight average molecular weight, and (ii) an at least partially crystalline copolymer impact modifier having a molecular weight lower than the weight average molecular weight of the crystalline polypropylene

matrix, the impact modifier comprising propylene and ethylene and/or one or more unsaturated comonomers, the modifier prepared using a metallocene catalyst or a nonmetallocene, metal-centered, heteroaryl ligand catalyst.

**II. IDENTIFICATION OF REQUESTER DATTA ET AL.'S CLAIMS  
CORRESPONDING TO THE PROPOSED COUNT (37 C.F.R. § 1.604(a)(1))**

All of Datta's pending claims 32-38 should be designated as corresponding to proposed Count 1. The first alternative embodiment of proposed Count 1 is identical to Datta claim 32. Datta claims 33-38 are dependent claims that depend directly or indirectly from claim 32. Datta's dependent claims 33-38 narrow the limitations of independent claim 32 or add limitations in a manner than does not change the nature of the underlying invention. Datta claims 32-38 are set forth in the accompanying Amendment And Reply To Office Action.

**III. IDENTIFICATION OF APPLICATION BY ANOTHER (37 C.F.R. § 1.604(a)(1))**

Datta requests an interference with Stevens U.S. patent application no. 10/289,122 ("the Stevens '122 application").

**IV. IDENTIFICATION OF CLAIMS OF STEVENS ET AL. THAT CORRESPOND  
TO THE PROPOSED COUNT (37 C.F.R. § 1.604(a)(2))**

Datta believes that the Stevens '122 application has pending claims 1-25, which have been allowed by the Office. A copy of Stevens claims 1-25 is attached at Tab 1. For the reasons stated below, all of Stevens claims 1-25 should be designated as corresponding to proposed Count 1. Stevens independent claim 1 is set forth above as the second alternative embodiment of proposed Count 1. Stevens claims 1-25 are attached at Tab 2.

**V. EXPLANATION OF WHY AN INTERFERENCE SHOULD BE DECLARED  
(37 C.F.R. § 1.604(a)(3))**

An interference should be declared between Datta's new claims 32-38 and claims 1-25 of the Stevens '122 application because Stevens' allowed claims embrace subject matter that was first disclosed by Datta.

**A. Datta's Claims Are Narrower Versions of Stevens' Claims**

Applicants' new claims 32-38 are modeled after claims 1-3, 5, 6, 19, and 20 of the Stevens '122 application. Applicants' new claims 32-38 are narrower versions of Stevens' claims, which have been allowed by the Office. The following chart shows the close similarity between Datta's and Stevens' claims:

<b>Datta claims</b>	<b>Stevens claims</b>
Claim 32 (new): A polymer blend comprising (i) a crystalline polypropylene continuous phase having a weight average molecular weight, and (ii) an at least partially crystalline copolymer dispersed phase having a weight average molecular weight lower than the weight average molecular weight of the crystalline polypropylene continuous phase, the dispersed phase comprising propylene and ethylene and/or one or more unsaturated comonomers, the dispersed phase prepared using a metallocene catalyst.	1. An impact-resistant polymer blend comprising (i) a crystalline polypropylene matrix having a weight average molecular weight, and (ii) an at least partially crystalline copolymer impact modifier having a molecular weight lower than the weight average molecular weight of the crystalline polypropylene matrix, the impact modifier comprising propylene and ethylene and/or one or more unsaturated comonomers, the modifier prepared using a metallocene catalyst or a nonmetallocene, metal-centered, heteroaryl ligand catalyst.
Claim 33 (new): The polymer blend of Claim 32 in which the crystalline polypropylene continuous phase is a homopolymer.	2. The polymer blend of Claim 1 in which the crystalline polypropylene matrix is a homopolymer.
Claim 34 (new): The polymer blend of Claim 32 in which the crystalline polypropylene continuous phase is a copolymer.	3. The polymer blend of Claim 1 in which the crystalline polypropylene matrix is a copolymer.

Datta claims	Stevens claims
Claim 35 (new): The polymer blend of Claim 32 in which the dispersed phase is a copolymer of propylene and ethylene.	5. The polymer blend of claim 1 in which the impact modifier is at least one of a copolymer of propylene and ethylene or a terpolymer of propylene, ethylene and C <sub>4-20</sub> $\alpha$ -olefin or diene.
Claim 36 (new): The polymer blend of Claim 32 in which the dispersed phase is characterized as (A) comprising at least about 88.4 weight percent of units derived from propylene and about 7.3 to 11.6 weight percent of units derived from ethylene, and (B) having an X-ray diffraction pattern that reports more gamma-form crystals than a comparable copolymer prepared using a Ziegler-Natta catalyst.	6. The polymer blend of Claim 1 in which the impact modifier is characterized as (A) comprising at least about 60 weight percent (wt%) of units derived from propylene, about 0.1-35 wt% of units derived from ethylene, and 0 to about 35 wt% of units derived from one or more unsaturated comonomers, with the proviso that the combined weight percent of units derived from ethylene and the unsaturated comonomer does not exceed about 40, and (B) having at least one of the following properties: (i) <sup>13</sup> C NMR peaks corresponding to a regio-error at about 14.6 and about 15.7 ppm, the peaks of about equal intensity, (ii) A DSC curve with a T <sub>me</sub> that remains essentially the same and a T <sub>max</sub> that decreases as the amount of comonomer in the copolymer is increased, and (iii) an X-ray diffraction pattern that reports more gamma-form crystals than a comparable copolymer prepared with a Ziegler-Natta (Z-N) catalyst.
Claim 37 (new): An article comprising the polymer blend of Claim 32.	19. An article comprising the polymer blend of Claim 1.
Claim 38 (new): An article comprising the polymer blend of Claim 36.	20. An article comprising the polymer blend of Claim 6.

Datta demonstrates in the accompanying Amendment and Reply to Office Action that new claims 32-38 are supported by Datta's specification.

**B. All Of Stevens' Claims Should Be Designated As Corresponding To Proposed Count 1**

The Datta and Stevens applications each have one independent claim – Datta claim 32 and Stevens claim 1. Datta's proposed Count 1 is in the alternative form with two embodiments that are identical to Datta's and Stevens' independent claims.

Stevens' dependent claims narrow the limitations of Stevens claim 1 or add limitations in a manner that does not change the nature of the underlying invention. Therefore, Datta believes that all of Stevens's claims define a single patentable invention, and Stevens claims 1-25 should be designated as corresponding to Datta's proposed Count 1.

**VI. REQUESTER DATTA ET AL. SHOULD BE NAMED SENIOR PARTY**

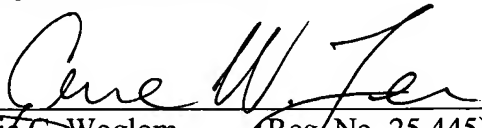
The Stevens '122 application claims priority to U.S. patent applications 60/378,203, filed on May 5, 2002, and 60/338,881, filed on November 6, 2001.

Datta's application claims priority to U.S. patent applications 09/342,854 (issued), filed on June 29, 1999, and 09/108,467 (abandoned), filed on July 1, 1998. All of Datta's new claims 32-38 are entitled to the benefit of Datta's earliest filing date of July 1, 1998. In view of the fact that Datta's claims are entitled to the benefit of a filing date that is much earlier than Stevens' earliest filing date, an interference should be declared naming Datta as the senior party.

## VII. CONCLUSION

Datta has shown above that an interference should be declared based on Datta's proposed Count 1 and involving Datta claims 32-38 and Stevens claims 1-25. An early declaration of interference between this application and the Stevens application is earnestly requested.

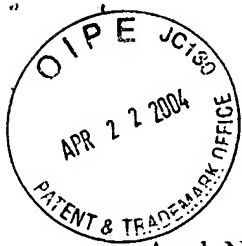
Respectfully submitted,



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**REQUEST FOR INTERFERENCE WITH  
TAU ET AL. APPLICATION (NO. 10/289,168)  
PURSUANT TO 37 C.F.R. § 1.604**

Sir:

The purpose of this paper is to request that an interference be declared between newly added claims 39-48 of this application and allowed claims 1-16, 20-21 and 30-36 of Tau et al. application no. 10/289,168 ("the Tau et al. application"). This Paper is accompanied by an Amendment and a supporting declaration of Professor Rufina G. Alamo. The Amendment includes the addition of new claims 39-48. The Amendment shows that Requester Datta et al.'s ("Datta") claims 39-49 are supported by the Datta specification.

The invention that is held in common by new claims 39-48 of this application and the allowed claims of the Tau et al. application relates to films having at least one layer made from a polymer blend where at least one component of the blend -- "polymer (A)" -- is a propylene-ethylene copolymer comprising at least about 60 weight percent propylene and at least about 4 weight percent ethylene with at least one of three characteristics.

One of these characteristics is that the copolymer is characterized by having "an X-ray diffraction pattern that exhibits more gamma-form crystals than a copolymer comparable in all respects except that it is prepared with a Ziegler-Natta catalyst" (Tau et al. allowed claim 16).

Propylene-ethylene copolymers that are within the comonomer content range of Tau et al. claim 16 are disclosed in Datta's specification and claimed in Datta's new claims 39-48. These copolymers inherently meet the Tau et al. claim 16 limitation to the amount of gamma-form crystals compared to comparable copolymers prepared with a Ziegler-Natta catalyst. It is well-known in the art that polypropylene homopolymers and propylene-ethylene copolymers made using metallocene catalysts of the type disclosed in Datta's specification have more gamma-form crystals than a comparable copolymer made using a Ziegler-Natta catalyst. This is demonstrated in the Declaration of Professor Rufina G. Alamo submitted herewith.

Therefore, Datta's specification inherently discloses the gamma-form crystallinity claim limitation of Tau et al. claim 16.

#### **I. PRESENTATION OF PROPOSED COUNT (37 C.F.R. § 1.604(a)(1))**

Applicant proposes that an interference be declared on the basis of a count which encompasses Datta's new claim 39 and Tau et al. allowed claim 16.

Applicant proposes that the interference be based on a count structured as an "OR" count – one that contains Datta's independent claim 39 and Tau et al. claim 16.

##### **Proposed Count 1:**

###### *Datta's Claim 39*

A film made from a polymer blend comprising at least one polymer (A) and at least one polymer (B), polymer (A) comprising about 5 to

about 99 weight percent of the blend, and polymer (A) comprising a copolymer of about 96 to about 88 weight percent of propylene derived units and about 4 to about 11.6 weight percent of ethylene derived units, and polymer (A) is further characterized as having an X-ray diffraction pattern that exhibits more gamma-form crystals than a copolymer comparable in all respects except that it is prepared with a Ziegler-Natta catalyst, and polymer (B) comprising a thermoplastic polymer other than polymer (A).

OR

*Tau et al. Allowed Claim 16*

A film having at least one layer made from a polymer blend comprising at least one polymer (A) and at least one polymer (B), polymer (A) comprising at least 50 weight percent of the blend, and polymer (A) comprising at least about 60 weight percent of units derived from propylene and at least about 4 weight percent of units derived from a comonomer selected from the group consisting of ethylene and an unsaturated monomer other than ethylene, and polymer (A) is further characterized as having at least one of the following properties: (i)  $^{13}\text{C}$  NMR peaks corresponding to a regio-error at about 14.6 and about 15.7 ppm, the peaks of about equal intensity, (ii) a DSC curve with a  $T_{\text{me}}$  that remains essentially the same and a  $T_{\text{max}}$  that shifts to the left as the amount of comonomer in the copolymer is increased, and (iii) an X-ray diffraction pattern that exhibits more gamma-form crystals than a copolymer comparable in all respects except that it is prepared with a Ziegler-Natta catalyst, and polymer (B) comprising a thermoplastic polymer other than polymer (A).

**II. IDENTIFICATION OF REQUESTER DATTA ET AL.'S CLAIMS  
CORRESPONDING TO THE PROPOSED COUNT (37 C.F.R. § 1.604(a)(1))**

Datta's claims corresponding to the proposed count are new claims 39-48.

**III. IDENTIFICATION OF APPLICATION BY ANOTHER (37 C.F.R. § 1.604(a)(1))**

The other application is Tau et al. application no. 10/289,168.

**IV. IDENTIFICATION OF CLAIMS OF TAU ET AL. THAT CORRESPOND TO  
THE PROPOSED COUNT (37 C.F.R. § 1.604(a)(2))**

The claims of the Tau et al. application that should correspond to the proposed count are allowed claims 1-16, 20-21 and 30-36.

Tau et al. claim to have produced novel propylene-ethylene copolymers because their processes and catalysts are said to result in copolymers have unique microstructural features as shown by properties such as those included in allowed claim 16, including the limitation to the amount of gamma-form crystals relative to comparable Ziegler-Natta catalyzed polymers. Dr. Tau submitted a declaration in the Tau et al. application that states: "the polypropylenes of Claims 5-16 and 34-36 exhibit properties, e.g., regio-errors, a DSC curve, etc. [gamma form crystals] that have not been exhibited in polypropylenes made with catalysts other than a metal-centered, heteroaryl ligand catalyst." (December 8, 2003 Declaration of Li-Min Tau under 37 C.F.R. § 1.132, page 4, ¶ 11). Because the properties of a film result from the polymer used to prepare the film (as well as the method of making the film), it is reasonable to assume that the "unique combination of physical and optical" film properties (Id., page 4, paragraph 13) specified in the allowed claims of the Tau et al. application are due to the properties of the polymers referred to above by Dr. Tau. Thus, all of the allowed Tau et al. claims should be designated as corresponding to Datta's proposed count.

**V. EXPLANATION OF WHY AN INTERFERENCE SHOULD BE DECLARED  
(37 C.F.R. § 1.604(a)(3))**

An interference between claims 39-48 of this application and allowed claims 1-16, 20-21 and 30-36 of the Tau et al. application should be declared because the allowed claims of the Tau et al. application relate to subject matter that was first disclosed by Datta.

In particular, Datta's new claim 39 copies allowed claim 16 of the Tau et al. application, except in the following respects:

(1) Claim 39 relates to an article of manufacture instead of a film having at least one layer (see dependent Claim 40 that specifies a film).

(2) Claim 39 specifies that polymer (A) comprises about 5 to about 99 weight percent of the blend instead of "comprising at least 50 weight percent of the blend" in Tau et al. claim 16.

(3) Claim 39 specifies that polymer (A) comprises a copolymer of about 96 to about 88 weight percent of propylene derived units and about 4 to about 11.6 weight percent of ethylene derived units instead of "comprising at least about 60 weight percent of units derived from propylene and at least about 4 weight percent of units derived from the group consisting of ethylene and an unsaturated monomer other than ethylene" in Tau et al. claim 16.

(4) Claim 39, like Tau et al. claim 16, specifies that polymer (A) is further characterized as having an X-ray diffraction pattern that exhibits more gamma-form crystals than a copolymer comparable in all respects except that it is prepared with a Ziegler-Natta catalyst. Tau et al. claim 16 also states that polymer (A) is characterized by having at least one of three properties, the X-ray diffraction property just referred to and either a <sup>13</sup>C NMR property relating to a specified regio-error (item "(i)") and a DSC melting property (item "(ii)"). Thus, Datta's claim 39 is narrower in most respects than Tau et al. claim 16.

Dependent claims 40-46 further narrow claim 39.

Datta's new independent claim 47 also copies allowed claim 16 of the Tau et al. application, except in the following respects:

- (1) Claim 47 relates to an article of manufacture instead of a film having at least one layer (see dependent Claim 48 that specifies a film).
- (2) Claim 47 specifies that polymer (A) comprises about 5 to about 99 weight percent of the blend instead of "comprising at least 50 weight percent of the blend" in Tau et al. claim 16.
- (3) Claim 47 specifies that polymer (A) comprises at least about 65 weight percent of propylene derived units and at least about 4 weight percent of ethylene derived units instead of "comprising at least about 60 weight percent of units derived from propylene and at least about 4 weight percent of units derived from the group consisting of ethylene and an unsaturated monomer other than ethylene" in Tau et al. claim 16.
- (4) Claim 47, like Tau et al. claim 16, specifies that polymer (A) is further characterized as having an X-ray diffraction pattern that exhibits more gamma-form crystals than a copolymer comparable in all respects except that it is prepared with a Ziegler-Natta catalyst. Tau et al. claim 16 also states that polymer (A) is characterized by having at least one of three properties, the X-ray diffraction property just referred to and either a <sup>13</sup>C NMR property relating to a specified regio-error (item "(i)") and a DSC melting property (item "(ii)"). Thus, Datta's claim 39 is narrower in most respects than Tau et al. claim 16.

The Tau et al. application contains claims, such as independent claim 16, that claim a film having at least one layer made from a polymer blend where at least one component of the blend – polymer (A) – is a propylene-ethylene copolymer comprising at least about 60

weight percent propylene and at least about 4 weight percent ethylene with at least one of three characteristics. One of these three alternate characteristics is that the copolymer is characterized by having "an X-ray diffraction pattern that exhibits more gamma-form crystals than a copolymer comparable in all respects except that it is prepared with a Ziegler-Natta catalyst" (Tau et al. allowed claim 16).

Propylene-ethylene copolymers that are within the comonomer content range of Tau et al. claim 16 are disclosed in Datta's specification and claimed in Datta's new claims 39-48. These copolymers inherently meet the Tau et al. claim 16 limitation to the amount of gamma-form crystals compared to comparable copolymers prepared with a Ziegler-Natta catalyst. It is well-known in the art that the polypropylene homopolymers and propylene-ethylene copolymers made using metallocene catalysts of the type disclosed in Datta's specification have more gamma-form crystals than a comparable copolymer made using a Ziegler-Natta catalyst. This is demonstrated in the Declaration of Professor Rufina G. Alamo submitted herewith. Therefore, Datta's specification inherently discloses the gamma-form crystallinity claim limitation of Tau et al. claim 16, and Datta's new claims 39-48 contain that limitation for propylene-ethylene copolymers meeting the comonomer composition limitations of Tau et al. claim 16.

#### **VI. REQUESTER DATTA ET AL. SHOULD BE NAMED SENIOR PARTY**

The Tau et al. application was filed on November 5, 2002 and claims priority to U.S. Provisional Application No. 60/338,881, filed on November 6, 2001.

Datta's application, serial no. 10/613,374, has a filing date of July 3, 2002, and is a continuation of application serial no. 09/342,854 (issued), filed on June 6, 1999, well before the earliest claimed priority date of November 6, 2001 for the Tau et al. application. Datta also

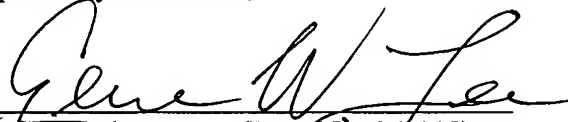
claims priority to application serial no. 09/108,467 (abandoned), filed on July 1, 1998, also filed well before Tau et al.'s earliest filing date.

In view of the fact that Datta's claims are entitled to the benefit of a filing date that is much earlier than Tau et al.'s earliest filing date, an interference should be declared naming Datta as the senior party.

## VII. CONCLUSION

An early declaration of interference between this application and the Tau et al. application is earnestly requested.

Respectfully submitted,



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